**VCE IT Applications Unit 3 Outcome 2 2013**

**Outcome***:* **Design, and develop using a relational database management system, a solution to an information problem, and discuss why and how data is acquired via websites.**

In Unit 3 Outcome 2, you are required to apply the design and development stages of the problem-solving methodology to create a relational database solution to an information problem. The database solution should include tables with relationships and at least one query. You are also required to write a report which analyses data acquisition from websites and how that data can be protected.

This outcome will contribute 50 marks out of the 100 marks allocated to the SACs for Unit 3.

It will be assessed by two tasks.

**Task 1: 40 Marks**

In Response to a design brief that includes an analysis of an information problem the design and development of a problem.

**Task 2: 10 Marks**

Written Report

**Outcome milestones**

You will be required to:

* Read the design brief supplied and identify the problem.
* Apply the problem-solving methodology to the case study.
* Identify the input data and the solution needed.
* Design the solution.
* Use relevant functions of RDBMS software to develop the solution.
  + Validate the data.
  + Test the solution.
  + Manipulate the data.
* Use relevant software functions to demonstrate features of the software.
* Write a report in which you demonstrate a knowledge of data acquisition techniques.

**Scope of Task:**

* + **Software:** Filemaker Pro/Access
  + **Time:** Approximately 360-400 Minutes, 8 Classes; (Charlton 5 classes)

## Movies Galore

Movies Galore is a DVD/Video rental business that operates in a town in Northern Victoria. It was established in 2000 and carries a wide range of DVD’s that are available for rental to its members. Roger Rogerson is the proprietor and manager and he has been the owner since the business was established. The business has undergone rapid growth in the past years and this has placed pressure on the information systems currently in place.

Harry hires one permanent, full time employee, (Steph) to act as manager during the shifts when he is absent and also managing the ordering and supplying of DVDs/Videos.

The current information system at Movies Galore uses a card system to keep track of its operations. The card system contains the details of all the DVD’s & videos and the suppliers. Each DVD has a separate card.

As new DVD’s are purchased their details are entered on the card with the details of the supplier. This is a time consuming process. Errors are made in entering the data and it is difficult to determine the total value of DVD’s, the DVDs from each supplier and the type of hire.

The card system is slow and inaccurate and there are some obvious problems with this system involving both the processing of data and the production of reports for management. Harry has seen much more efficient and effective systems in action at other similar stores. He believes he is losing money due to extra staffing costs.. Harry and his staff have never used FileMaker Pro or Access before and he is aware of the additional costs involved with installing new software.

Harry’s suggestion is to have an online presence, moviesgalore.com which would mean Harry and the employee would go to their website. At their website they would be able to select the supplier company, select the DVD/Video to be ordered, cost of the DVD/video and the total cost. They would go through the process and place the order in their shopping cart.

A relational Database Management System, (RDBS) would manage all data through the online ordering system. The RDBS will keep track of all records relating to the suppliers details, details of DVDs/Videos, cost and total cost of DVDs/Videos.

## What is required?

At present the business keeps a card system with one DVD/Video on each card. The management requires the system to be integrated to solve the problems listed above. The manager would like to be able to generate the following from the database:

* List of all DVDs/Videos sorted by cost
* List of all DVDs sorted by cost
* List of all Videos sorted by cost
* List of all DVDs/Videos and their total cost
* List of all DVDs/Videos sorted by Hire type
* List of all DVDs/Videos sorted by Supplier
* List of all Suppliers and their details sorted by Company name
* Individual suppliers and their DVD’s/Videos

Sample Data:

**Video suppliers**

Buster DVDs, Tom Thumb, 3 Vale Rd, Korong Vale, 3520, 354947206, [justice\_league07@hotmail.com](mailto:justice_league07@hotmail.com)

Cheap as Chips DVDs, Kissme Scratch, 73 Highest St, Wedderburn, 3518, 354943882, [slash\_and\_rip@hotmail.com](mailto:slash_and_rip@hotmail.com)

Harrys Best DVDs/Videos, Jass Mine, 23 Tinshack Terrace, St.Arnaud, 3536, 354383207, [alwayssecondbest@yahoo.com](mailto:alwayssecondbest@yahoo.com)

Y U R Mine DVD, Fried Motherboard, 71 Cooked Lane, Donald, 3536, 354383765, [gonefishin@superheros.scam.org](mailto:gonefishin@superheros.scam.org),

All Systems Go, Mitchell Tait, 707 Rudd Road, Wycheproof 3528, 534947011, itsaball@freddies.com

**DVDs/Videos**

(title); Starsky and Hutch, (cast), Ben Stiller, Owen Wilson, Snoop Dogg; video, (cost), $200, (hire type) New Release; (supplier) Buster DVDs

The Big Bounce, Owen Wilson, Sara Foster, Morgan Freeman, Video, $120, New Release, Buster DVDs

21 Grams, Sean Penn, Naomi Watts, Benicio Del Toro, Video, $250, New Release, Cheap as Chips DVDs

50 First Dates, Adam Sandler, Drew Barrymore, Rob Schneider, DVD, $150, New Release, Cheap as Chips DVDs

Barbershop 2: Back in Business, Rémy Girard, Stephane Rousseau, Dorothee Berryman, DVD, $230, Weekly, Y U R Mine DVD, Fried Motherboard

Big Fish, Ewan McGregor, Albert Finney, Billy Crudup, DVD, $320, New Release, Y U R Mine DVD, Fried Motherboard

The Butterfly Effect, Ashton Kutcher, Amy Smart, Elden Henson, Video, $100, New Release, All Systems Go

Calendar Girls, Helen Mirren, Julie Walters, John Alderton, Video, $300, New Release, All Systems Go

**Assessment Requirements:**

**Analysis**:

Define the problem – rewrite the problem in your own words by providing a succinct and logical problem statement. **2 Marks**

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**Design: 13 Marks**

1. **ERD Diagram, 2 Marks**
2. **Data Structure Tables, 3 Marks**

**Table \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Field** | **Data type** | **Field size** | **Input mask/ or Filemaker Max Characters** | **Description** | **Validation Rule** | **Validation Text** |
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1. **Data Structure Tables, 3 Marks**

**Table \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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1. **Data Structure Diagram, Relationship Diagram, 1 Mark**
2. **Test Data Table, 2 Marks**

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| **Formula/Function to Test** | **Test Data** | **Expected/Required Result** | **Why?** |
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**Layout Diagram, design of input screen and an output or report, 3 Marks**

**Development: As per Criteria Sheet, 19 marks**

**Testing: As per Criteria Sheet, 6 Marks**

Test Table:

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| --- | --- | --- | --- |
| **Formula/Function to Test** | **Test Data** | **Expected/Required Result** | **Why?** |
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